

BRIEF REPORT

The 5A's vs 3A's plus proactive quitline referral in private practice dental offices: preliminary results

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Aims: The primary aim of our randomised control trial (RCT) was to evaluate the relative efficacy of two dental office based interventions compared to usual care. One intervention consisted of a combination of dental practitioner advice to quit and proactive telephone counselling (3A's), and the other arm consisted of a dental practitioner delivered intervention based on the 5A's of the Clinical Practice Guideline (5A's).

Method: 2177 tobacco using patients were enrolled from 68 dental practices in Mississippi. We collected 3-month outcome data from 76% (n = 1652) of participants.

Results: Smokers in the two intervention conditions quit at a higher rate than those in usual care; χ^2 (1, n = 1381) = 3.10, $p < 0.05$. Although not significant, more patients in the 5A's condition quit than those in the 3A's. Of patients in the 3A's Condition, 50% reported being asked by their dentist or hygienists about fax referral to the quitline, and 35% were referred. Quitline counsellors contacted 143 (70%) referred participants.

Conclusion: These results suggest that there are both advantages and disadvantages to the use of quitlines as an adjunct to brief counselling provided by dental practitioners. Patients receiving quitline counselling quit at higher rates than those who did not; however, only a small percentage of patients received counselling from the quitline. Therefore, it appears that dental professionals may be most effective in helping their patients to quit by regularly providing the 5A's plus proactively referring only those patients who are highly motivated to a quitline for more intensive counselling.

Dental care settings have become increasingly attractive as an avenue for promoting tobacco cessation. The office visit represents a clinical opportunity during which patients may be receptive to cessation advice and assistance, particularly if their oral health concerns can be related to their use of tobacco.¹

The Clinical Practice Guideline for Treating Tobacco Use and Dependence² advocates the use of the "5A's" of tobacco cessation intervention to be delivered by healthcare practitioners. However, adoption of the 5A's into routine dental care has been slow.^{3–5} Clinicians have come to accept responsibility for the first two A's—asking and giving brief advice—but are usually reluctant to assess interest in quitting and to provide assistance and follow-up (the last 3A's) because these are time consuming and require skills they do not see themselves possessing.¹

Telephone counselling services are now available in all 50 states in the United States, and in Australia, Canada, and several European countries. Analyses studying the effectiveness of TC showed significant but modest effect sizes.^{2–8} Combining an intervention initiated by a dental care professional with a referral to quitline counselling could serve to reduce the burden

on the dental professional while taking advantage of quality telephone cessation counselling.

The primary aim of our study was to evaluate the relative efficacy of two dental office based interventions compared to usual care in a randomised clinical trial for patients who use tobacco. One intervention consisted of a combination of dental practitioner advice to quit and proactive telephone counselling (3A's), and the other arm consisted of a dental practitioner delivered intervention based on the 5A's of the Clinical Practice Guideline (5A's). We expected that participants in the intervention conditions would be more likely to quit than those in usual care, and that patients receiving advice from their dental practitioner plus proactive counselling from the quitline would be more likely to quit than those who did not receive counselling from the quitline. This paper presents the 3-month outcomes for participant tobacco cessation.

METHODS

Design

We recruited, randomised, and trained 74 practices located throughout the state of Mississippi. Practices were recruited and enrolled into the study in four cohorts across three years. During the course of the study, six practices dropped out as a result of Hurricane Katrina; therefore, we collected data in 68 private dental practices. Twenty-two practices were randomised to the usual care condition, 25 to the 5A's condition, and 21 to the 3A's condition. All practices enrolled patients into the study for a minimum of six months. Participating dental practitioners in the intervention conditions received four hours of continuing medical education (CME) credit upon completion of training; practitioners in usual care received their CME after all of their participating patients completed their last follow-up assessment. All participating practices received monthly "treats" (food of their choosing) for their efforts.

Participants were recruited into the study by front office staff at each participating practice. Before seeing the dentist or dental hygienist, all patients were asked to complete the informed consent document and survey in the waiting area. Self identified tobacco users were offered \$6, plus the chance to receive \$250 from a random draw, for participating in the study.

Dental intervention

Dentists, dental hygienists, and dental assistants in the 5A's condition received a three hour, in-service workshop containing information on integrating and delivering a brief, tailored tobacco cessation intervention to their patients, and a CD-Rom program with additional video models demonstrating the intervention. The intervention consisted of (1) asking all patients about their tobacco use at every visit; (2) relating oral health effects of tobacco and advising patients to quit tobacco;

Abbreviations: CME, continuing medical education; RCT, randomised control trial; ST, smokeless tobacco

(3) assessing readiness to quit; (4) assisting those patients interested in quitting by setting a quit date, discussing pharmacotherapy, and providing materials; and (5) arranging for follow-up by mail or phone to patients setting a quit date. Each practice in both intervention conditions was given a supply of patient self help written materials, tailored for smokers or smokeless tobacco (ST) users and for Caucasians or African Americans, and information on the Mississippi Tobacco Quitline, which providers were asked to give to all tobacco using patients.

Practitioners in the 3A's condition received a workshop on a modified version of the Clinical Practice Guideline. These clinicians were taught to ask about tobacco use, relate health effects, and advise all smokers and chewers to quit. They were then instructed to assess patients' readiness to quit. The first question asked was "Would you be interested in quitting in the next six months?" Practitioners then asked patients who answered affirmatively if they would consider setting a quit date in the next 30 days. Patients indicating an interest in quitting in the next month were given detailed information about Mississippi Tobacco Quitline services and encouraged by the dentist or dental hygienist to complete a referral form for the quitline.

Quitline protocol

During the study period, the Mississippi Tobacco Quitline provided state of the art tobacco cessation services to all residents of the state. Before Hurricane Katrina, the Mississippi Tobacco Quitline used its standard protocol for reaching patients referred by healthcare providers, which was to make a maximum of five attempts. After the hurricane, the authors made special arrangements with the quitline to increase the number of attempts to 10. Aggregate reports on participant contact and disposition were faxed to the authors and individual patient reports were faxed to the referring practitioner on a monthly basis.

Participants

A total of 2177 tobacco using patients were enrolled in the study over a 3-year period. The majority of participants were Caucasian (80.5%); female (60%); married or living with a partner (59%); and had at least some college education (60%). Most of the participants were smokers (79%), 16% were ST users, and 5% reported using both forms of tobacco. Participants reported smoking an average of ½–1 pack per day; ST users reporting an average of two tins per week. The majority of participants (60%) smoked or chewed tobacco within 30 minutes of waking and had used tobacco for an average of 17 years. Participants' average rating of readiness to quit (using the contemplation ladder⁹) was 6, on a scale of 0–10. Half of the participants (50%) reported that they were seriously considering quitting in the next 30 days, and 54% reported making an attempt to quit in the past year. There were no differences between conditions on any of these variables at baseline.

Measures

A questionnaire assessing point prevalence of tobacco use as measured by the questions, "Have you smoked, even a puff, in the last 7 days?" and "Have you used smokeless tobacco, even one dip, in the last 7 days?" was mailed to participants at 3 months after enrolment. Those participants who did not respond to the mailed survey within two weeks were contacted by telephone to complete the survey. Self reported abstinence was not biochemically verified because of the public health nature of this trial.¹⁰ Participants were also asked about their receipt of intervention components, including contact with the tobacco quitline.

RESULTS

Preliminary analyses

We collected 3-month outcome data from 76% (n = 1652) of eligible participants. A higher proportion of those in the 5A's intervention group responded to the 3-month survey (79.3%) than those in the 3A's group (73.8%; χ^2 (1, n = 1602) = 6.68, p<0.01). There was no difference in response rates between usual care and the two intervention groups combined. Respondents and non-respondents did not differ on any baseline variables.

Implementation

There were significant differences between the control condition and the two intervention conditions combined on self reported receipt of the advice related intervention components. Patients in the intervention conditions were more likely to report setting a quit date (41% vs 30%, respectively, χ^2 (1, n = 1644) = 16.67, p<0.001); receiving tips for quitting (37% vs 27%; χ^2 (1, n = 1644) = 15.06, p<0.001); discussing pharmacotherapy (38% vs 26%; χ^2 (1, n = 1644) = 18.95, p<0.001); and receiving written materials (64% vs 47%; χ^2 (1, 1644) = 39.25, p<0.001). In addition, participants in the intervention conditions were significantly more likely to receive information and/or referral to the quitline than those in usual care (46% vs 26%; χ^2 (1, 1644) = 52.36, p<0.001).

There were no differences between the 3A's and 5A's conditions on reported receipt of the assist behaviours. However there was a significant difference between intervention conditions on patient self reported receipt of quitline referral (3A's condition, 52% vs 40% in the 5A's condition; χ^2 (1, 1213) = 18.57, p<.001).

Quitline referral

Thirty-five per cent (205) of the patients in the 3A's condition gave permission for the referral. According to quitline records, quitline counsellors were able to contact 143 (70%) of the participants who agreed to referral. The most common reasons for unsuccessful attempts to reach a participant were "no answer" and "not returning repeated messages." A comparison of quitline records and self reported receipt of telephone counselling indicated that 91% of those patients recorded by the quitline as having received an intake also reported receipt of counselling.

Table 1 Three-month self reported quit rates for all tobacco use by condition

Complete case	Usual care	5A's and 3A's combined	5A's	3A's
All tobacco users (n = 1644)	6.3% (n = 431)	7.7% (n = 1213)	8.3% (n = 628)	7.2% (n = 585)
Smokers only (n = 1381)	5.1% (n = 352)	8.1%* (n = 1029)	8.2% (n = 537)	7.9% (n = 492)

*p<0.05.

A comparison of receipt of quitline services indicated that 24% of participants in the 3A's condition reported receiving a call from the quitline compared with 2.6% and 2.2% of participants in the 5A's and usual care conditions, respectively.

Outcome analyses

We conducted two orthogonal comparisons, comparing patients in usual care with those in the two intervention groups combined; and participants in the 5A's with those in the 3A's. For all participants, including both smokers and chewers ($n = 1644$) with "quit all tobacco use" as the outcome, differences between groups were not significant.

However, among those who only smoked cigarettes, patients in the two intervention conditions quit at a higher rate than those in usual care; $\chi^2 (1, n = 1381) = 3.37, p < 0.05$. Although not significant, more of patients in the 5A's condition quit than those in the 3A's (see table 1). Readiness to quit smoking significantly predicted self reported abstinence across conditions (OR = 1.18, 95% CI 1.08, 1.29, $p < 0.001$). There was no differential prediction as a function of condition. There were no differences between the two intervention conditions in the use of adjunctive quitting aids (pharmacotherapy or written materials) among all patients and only those who quit.

Of those participants who received quitline services, self reported abstinence was 9.1% ($n = 13$). This proportion was compared to the quit rate of participants in the 3A's condition who were not referred to the quit line, 6.0% ($n = 21$; non-significant). Those participants who were more ready to quit, as measured by the contemplation ladder (OR = 1.12, 95% CI = 1.02 to 1.03, $p < 0.05$), and reported being ready to quit in 30 days (OR = 2.62, 95% CI 1.48 to 4.65, $p < 0.001$) were more likely to have received telephone counselling. Of those participants in the usual care condition who reported receiving a call from the quitline, none reported quitting all tobacco use. Fourteen participants in the 5A's condition reported receiving a call from the quitline, and two of those reported that they had quit using all forms of tobacco (0.4%).

DISCUSSION

The results of this study show that smokers who received a dental office based intervention were more likely to quit than those in usual care, although absolute quit rates were lower than expected. A likely reason for the lower quit rates is the impact of Hurricane Katrina. Although we have not yet conducted analyses of quit rates pre-Katrina versus post-Katrina, anecdotal evidence suggests that the hurricane affected both individual tobacco related behaviours and community resources. We received many comments from participants on their follow-up surveys that indicated how the displacement and disruption following Katrina reduced both their motivation to quit as well as their access to cessation services (for example, "I am sorry I didn't complete and return this sooner, but Hurricane [sic] Katrina has occupied my mind, we didn't have phone service for 3 wks...I may have gotten a call from the quitline but I am not sure, because I had to wait for insurance peoples return call").

There was also a non-significant trend suggesting that the 5A's intervention was more effective than the 3A's plus proactive referral to a quit line. A similar proportion of patients in each intervention condition received all of the 5A's, with those in the 3A's condition being more likely to be asked about referral to the quitline. Therefore, it is puzzling that quit rates were lower in the 3A's condition than in the 5A's. We hypothesise that practitioners in the 5A's condition provided more comprehensive assistance to their patients than dentists in the 3A's condition, knowing that it was the only opportunity for patients to receive this type of cessation service.

What this paper adds

What is already known on this subject

The dental office visit represents a clinical opportunity during which patients may be receptive to cessation advice and assistance, particularly if their oral health concerns can be related to their use of tobacco. Clinicians have come to accept responsibility for the first two A's—asking and giving brief advice—but are usually reluctant to assess interest in quitting and to provide assistance and follow-up (the last 3A's) because these are time consuming and require skills they do not see themselves possessing. Combining an intervention initiated by a dental care professional with a referral to quitline counselling could serve to reduce the burden on the dental professional while taking advantage of quality telephone cessation counselling.

What this study adds

The results of this study suggest that there are both advantages and disadvantages to the use of quitlines as an adjunct to brief counselling provided by dental practitioners. Although patients receiving quitline counselling quit at higher rates than those who did not, only a small percentage of patients received counselling from the quitline. However, most dental patients received no assistance from a quit line, even when proactively referred. Therefore, it appears that dental professionals may be most effective in helping their patients to quit by regularly providing both advice and assistance to patients and referring those patients who are highly motivated to a quitline for more intensive counselling.

Practitioners in the 3A's condition may have believed that all patients who were referred to the quitline would receive cessation services; therefore, dentists and hygienists in this condition may have provided more cursory cessation assistance. Unfortunately, we cannot confirm this hypothesis as we did not measure time spent or other qualitative aspects of intervention implementation. These variables should be assessed in future investigations.

Encouragingly, over half of the participants in the 3A's condition were asked about referral to the quitline; 70% of those agreed to the referral, and almost half of patients who were asked about referral received some service from the quitline. However the absolute number of patients who received quitline counselling was disappointingly low.

Limitations

Unfortunately, recruitment into the study suffered because of Hurricane Katrina. Recruitment rates were approximately half of those anticipated. In addition, usual care quit rates were higher than we expected. This may have been the result of a state mandate in Mississippi from 2000 to 2005 to target and train healthcare professionals to provide brief tobacco treatment services. Finally, differential attrition between intervention conditions suggests that patients in the 3A's condition may have been less willing to invest time in participating in the study.

Conclusions

These results suggest that there are both advantages and disadvantages to the use of quitlines as an adjunct to brief counselling provided by dental practitioners. Patients receiving quitline counselling quit at higher rates than those who did not; however, only a small percentage of patients received counselling from the quitline. Therefore, it appears that dental professionals may be most effective in helping their patients to quit by regularly providing the 5A's plus proactively referring

only those patients who are highly motivated to a quitline for more intensive counselling. Since most quitlines provide feedback to referring clinicians, dental staff can follow up on this interaction at the patient's next office visit.

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ELECTRONIC PAGES

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The following electronic only article is published in conjunction with this issue of Tobacco Control.

Scottish court dismisses a historic smoker's suit

L Friedman, R Daynard

The decision in a Scottish smoker's case, *McTear v. Imperial Tobacco Limited*, that there was no scientific proof of causation between the plaintiff's smoking and his death from lung cancer, accepted all of the traditional arguments that the tobacco industry has made throughout the history of tobacco litigation, including that epidemiology is not an adequate branch of science to draw a conclusion of causation, that the tobacco industry has no knowledge that its products are dangerous to consumers, and that, despite this lack of knowledge, the plaintiff had sufficient information to make an informed decision about the dangers of smoking. This case relied on outmoded methods of reasoning and placed too great a faith in the tobacco industry's timeworn argument that "everybody knew, nobody knows". Further, the judge found it prejudicial that the

plaintiff's expert witnesses were not paid for their services because she was indigent, believing that the lack of payment placed in doubt their credibility and claiming that the paid tobacco expert witnesses had more motive to testify independently because they had been paid, a perverse and novel line of reasoning. The *McTear* case contrasts unfavourably with the recent decision in *United States v. Philip Morris*, a United States decision that found the tobacco industry defendants to be racketeers, based both on the weight of a huge amount of internal tobacco industry documents showing that the tobacco industry knew their products were addictive and were made purposely to increase sales, and on the testimony of expert witnesses who, like those who testified in *McTear*, have made the advancement of the public health their life's work and are not "hired guns". The *McTear* case's reasoning seems outdated and reminiscent of early litigation in the United States. Hopefully, it will not take courts outside of the United States 40 more years to acknowledge the current scientific knowledge about smoking and health.

(*Tobacco Control* 2007;**16**:e4) <http://tobaccocontrol.bmj.com/cgi/content/full/16/4/e4>